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New locality data for *Stegodyphus tibialis* (O. Pickard-Cambridge, 1869) (Araneae: Eresidae) from Telangana state, India

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Abstract: We present the first record of the velvet spider *Stegodyphus tibialis* (O. Pickard-Cambridge, 1869) from Telangana state, India. A male specimen of this species was collected from Osmania University campus, Hyderabad. We describe the male and provide a map of the global range of the species.

Key words: fauna; geographic distribution; velvet spiders

The cribellate spider family Eresidae C.L. Koch, 1845, commonly known as "velvet spiders", is represented globally by 97 species within nine genera. In India, eresids are known by six species of *Stegodyphus* Simon, 1873. Members of *Stegodyphus* are gregarious in habit, leading a communal or social life, hence the common name "social spiders". Compact nests with entrance and exit holes are built by a number of individuals. The nest is sticky in nature to trap wandering insects, which are dragged into the nest by the members of the colony and fed on. A peculiar behavior, known as matriphagy (suicidal maternal care) has been observed in members of this family, including *S. lineatus* (Latreille, 1817) (Salomon et al. 2015).

Stegodyphus spp. known from India are *S. tibialis* (O. Pickard-Cambridge, 1869); *S. sarasinorum* Karsch, 1891; *S. mirandus* Pocock, 1899; *S. pacificus* Pocock, 1900; *S. hisarensis* Arora & Monga, 1992 and *S. semadohensis* Shivaji, 2013 (World Spider Catalog 2016). Here, we discuss the global distribution of *S. tibialis*, adding a new locality record in India, and describe the male of the species.

The specimen was collected by hand, photographed in live (Figure 1) and later preserved in 90% ethanol. One of the palpi was separated, cleared in 50% NaOH solution (30 minutes), examined under Olympus U-CTR30-2 trinocular microscope and photographed by camera mount using Olympus live view DSLR E-420 camera. Measurements are in mm, taken by Mitutoyo vernier calipers. The distribution map (Figure 2) was prepared using Arc-GIS (ver. 10.2).

The specimen was deposited in the Osmania University Natural History Museum (OUNHM), Museum collection of the Department of Zoology, Osmania University, Hyderabad.

Stegodyphus tibialis (O. Pickard-Cambridge, 1869)
Figure 1

For a complete list of synonymies, see World Spider Catalog (2016).

Material examined: 1♂ (OUNHM.ART.ARA.2015.31), Osmania University Campus (17°25′ N, 078°31′ E), 20 December 2015 (G. Devender). The spider was found on the ground and its nest could not be traced (a similar observation was made by Ono 1995).

Figure 1. Male *Stegodyphus tibialis* (O. Pickard-Cambridge, 1869) live habitus; inset: palpal organ.

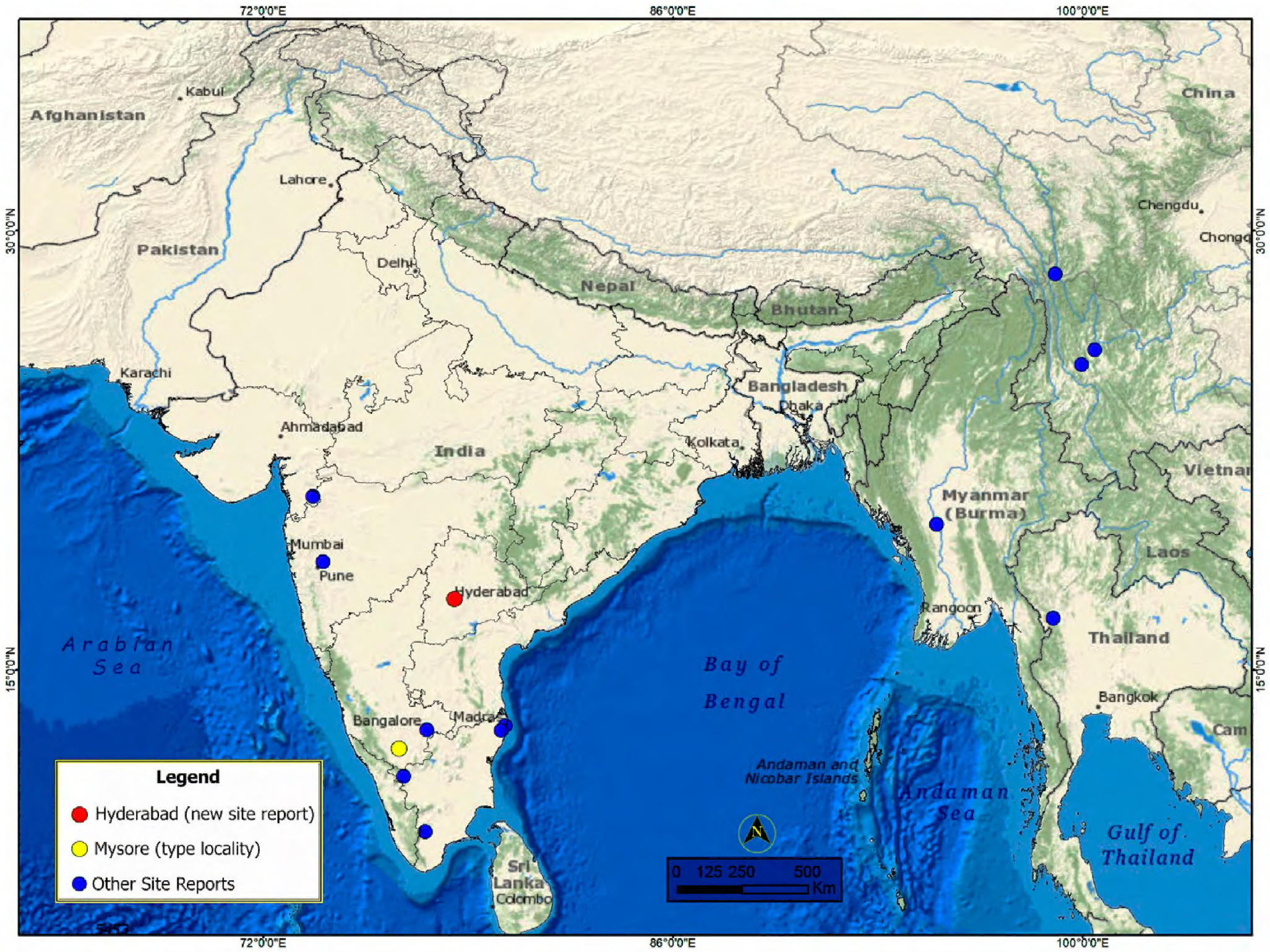

Figure 2. Global distribution range of *Stegodyphus tibialis* (O. Pickard-Cambridge, 1869), showing specimen-based site records from India, Myanmar, Thailand and China.

Distribution: INDIA: Mysore (type locality), Karnataka (1♂) (Pickard and Cambridge 1869); Pune, Maharashtra (2♀) (Kraus and Kraus 1989); Lal Bagh, Bangalore, Karnataka (1♀, holotype of *S. socialis*) (Pocock 1900); Jalarpet, Madras, Tamil Nadu (1♀) (Kraus and Kraus 1989); Tambaram scrub jungles, Tamil Nadu (9♂, 32♀) (Phanuel, 1963); Coonoor, Nilgiris, Tamil Nadu (1♀) (Kraus and Kraus 1989); Ayyanar Falls, Tamil Nadu (1♀) (Kraus and Kraus 1989), and Osmania University, Hyderabad, Telangana State (1♂) (present study). MYANMAR: Minhla, Burma (1♂) (Simon 1884). THAILAND: Lan Sang, Tak, Thailand (1♂) (Ono 1995) CHINA: Dali county (4♂; 20♀); Binchuan County (2♂); Yunnan Gengma (2♂; 7♀) and Yunnan Province county (1♀) (Yang and Hu 2002; Yang et al. 2008).

The genus *Stegodyphus* is divided into three species groups — *africanus*, *dufouri* and *mirandus*. They are primarily defined by different character expressions in the male and female genitalia. *Stegodyphus tibialis* belongs to the *mirandus* group. This group is characterized by: the males with the bulb having a heavily sclerotized terminal element and at least the terminal apparatus with a separate and conspicuous sclerotized lamella or claw-like hook; the females with the epigynum and vulva in most species in an oblique or even vertical position. This feature of epigynum positioning is less extreme in *S. lineatus* (Latreille, 1817), *S. nathistmus* Kraus & Kraus, 1989 and *S. tibialis* (O. Pickard-Cambridge, 1869) (Kraus and Kraus 1989).

The species is distinguished from the members of *mirandus* group by the presence of very thick, fusiform hairs on the tibia of leg I.

A description of the male is as follows: Small-sized eresid (Table 1). Carapace reddish black, with short

Table 1. Body measurements of adult male *Stegodyphus tibialis* (O. Pickard-Cambridge, 1869). (L: length; W: width)

Character	Measurement (mm)
Carapace (L; W)	3.57; 2.80
Chelicerae (L; W)	1.38; 0.75
Sternum (L; W)	1.88; 0.98
Abdomen (L; W)	3.71; 2.43
Legs: total (femur+patella+tibia+metatarsus+tarsus)	
I	8.85 (2.57+1.27+1.71+2.04+1.29)
II	6.58 (1.90+0.88+1.26+1.57+0.97)
III	5.09 (1.77+0.85+0.91+0.93+0.63)
IV	7.48 (2.32+1.19+1.52+1.59+0.86)
Palp: total (femur+patella+tibia+tarsus)	3.08 (0.90+0.46+0.26+1.46)

yellow hairs on the lateral sides as a thin line. Clypeus raised to a height of 0.74mm, chelicerae black and with yellow hairs at the base. Sternum narrow with a line of yellow hairs centrally. Legs reddish black with a line of yellow hairs running centrally from femur to tibia; leg formula 1423. Abdomen with two bands of yellow hairs, anteriorly and posteriorly, centrally with black hairs. Abdomen dorsally with 5 sigillae; ventrally black; cribellum with yellow hairs. Palpal organ with terminal apparatus guiding the embolus, forming one single stout element with heavily sclerotized region. One irregular oval fold shows a coarse surface structure consisting of ridges and scales. Terminal part of embolus conducted by a fold of a bill-like construction (Kraus and Kraus 1989) (Figure 1).

Stegodyphus tibialis was described as *Eresus tibialis*, on the basis of a single adult male specimen collected from Mysore, India (Pickard-Cambridge 1869). The species was subsequently recorded from Burma (now Myanmar) and transferred to the genus *Stegodyphus* by Simon (1884) on the basis of reddish brown cephalothorax, elongated carapace, eyes arranged in three rows, and notched chelicerae. Pocock (1900) described *S. socialis* based on female specimens. The first description of the female of *S. tibialis* was by Phanuel (1963) and subsequent comparison of the females of *S. socialis* and *S. tibialis* by Kraus and Kraus (1989) led to the synonymizing of the nomen *S. socialis* Pocock, 1900 with *S. tibialis*. Besides India, *S. tibialis* has also been reported from northwest Thailand (Ono 1995) and China (Yang and Hu 2002; Yang et al. 2008) (Figure 2). In India, this species has been recorded from Karnataka (Mysore, Bangalore), Maharashtra (Poona) and Tamilnadu (Ayyanar Falls, Coonor, Jalarpet and Tambaram) (Kraus and Kraus 1989). This report from Telangana State extends the range of the species into central peninsular India (Figure 2).

The species has been poorly studied since its description. Its distribution pattern (Figure 2) shows the prevalence of species in South and Southeast Asia (India, Myanmar, Thailand and South China). It is possible that this species occurs elsewhere in the Oriental region. There have not been any specimen based reports from India since Phanuel (1963) until Siliwal et al. (2003) reported a single female from Purna Wildlife Sanctuary, Gujarat.

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